

Appln No. 09/692,494
Amdt date January 16, 2004
Reply to Office action of November 18, 2003

REMARKS/ARGUMENTS

The foregoing amendment places the following claims in condition for allowance: 17, 18, 30-34, 36-42, 47-51, 56, 61-65 and 67-84. In particular, claims 11, 12, 26, 27, 43-46, 52-55, and 57-60 were withdrawn from consideration and Applicants have cancelled claim 66, amended claims 34, 36, 37, 42 and 64 and added dependent new claims 74-86. The amendments find full support in the original specification, claims and drawings. Specifically, the amendments find support in the specification at page 8, lines 19 to 27, and in FIGs. 4, 5, 7 and 8. No new matter is presented. In view of the above amendments and following remarks, Applicants submit that claims 17, 18, 30-34, 36-42, 47-51, 56, 61-65 and 67-86, as amended, define patentable subject matter. Applicants therefore respectfully request favorable reconsideration and a timely indication of allowance.

In the Final Office action dated November 18, 2003, the Examiner rejected claims 17, 18, 30-42, 47-51, 56, and 62-73 under Section 103(a) as allegedly unpatentable over Haissaguerre et al (U.S. Patent No. 6,068,629) in view of Swanson et al (U.S. Patent No. 6,428,537). Applicants respectfully traverse this rejection.

Independent claim 34, as amended, recites an irrigation tube having a first end fixedly attached at a first location and a second end fixedly attached at a second location. Neither Haissaguerre nor Swanson, nor the combination of these two references, suggest such a configuration.

First, the Examiner admits that Haissaguerre fails to disclose the loop configuration of the irrigation tube of the

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claimed invention. The Examiner relies on Swanson to suggest this feature of the claimed invention. However, Applicants submit that Swanson falls short in this respect for the reasons discussed below.

The proximal and distal ends of the spline assembly of Swanson are not fixedly attached at first and second positions on the distal end of the probe body. In FIGs. 23-27, the loop is shown as attached at a single location on the end of an elongated body. Swanson did suggest different configurations, but each of these configurations involves the loop being attached at a single location. Nowhere did Swanson disclose or suggest attaching ends of an irrigation tube at different locations on the distal end of the probe.

Moreover, Swanson failed to disclose the use of an irrigation tube in the probe. In fact, Swanson failed to teach the use of any tubular body to form the loop. Rather, Swanson uses an inert wire to form the spline assembly that carries the loop. See column 25, lines 35-38. Therefore, Swanson did not suggest the loop structure of the claimed invention.

Furthermore, one of ordinary skill in the art would not have combined Swanson with Haissaguerre because of the latter's teaching. Haissaguerre disclosed a catheter having two arms at the distal end of the catheter. When an axial force is applied to the arms, they are to ablate a substantially linear lesion. See column 13, lines 41-60. Haissaguerre stressed the application of continuous and evenly distributed pressure over the entire length of the two-arm assembly (see, e.g., column 9, lines 23-25). In contrast, such evenly distributed pressure

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would be difficult, if not impossible, with the looped configuration of Swanson. That is, when an axial force is applied, the loop of Swanson would concentrate the force at a location on the loop in the axial direction, rather than evenly distributing the force along the entire circumference of the loop as Haissaguerre describes. Because the even distribution of force along the entire ablation surface appeared to be a central element of Haissaguerre, one of ordinary skill in the art would not have combined it with the loop configuration of Swanson.

Applicants also note that independent claims 42 and 64 have been amended to recite a continuous electrode comprising a metal ribbon coiled a length of the loop formed by the irrigation tube. Moreover, claim 64 further recites the metal ribbon being coiled repeatedly around from about 20% to about 100% of the length of the loop. In that regard, newly added dependent claims 74-78 and 80-86 recite with more particularity the extent to which the metal ribbon is coiled around the length of the loop. Neither Swanson, nor Haissaguerre, nor the combination of these two references, taught such an electrode. In fact, both Haissaguerre and Swanson use a plurality of electrode elements, none of which appear to be a single continuous electrode comprising a flexible metal ribbon. There was no suggestion in either Haissaguerre or Swanson to use a continuous electrode or a flexible metal ribbon, or to coil the ribbon around the loop.

For the reasons stated above, Applicants respectfully submit that independent claims 34, 42 and 64 define patentable subject matter and, in turn, that claims 17, 18, 30-34, 36-42,

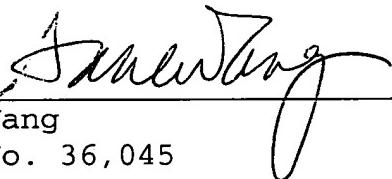
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47-51, 56, 61-65, and 67-86 are in condition for allowance. Applicants request that the Section 103(a) rejection based on Haissaguerre in view of Swanson be withdrawn and a timely indication of allowance be provided. If there are any remaining issues that can be addressed by telephone, Applicants invite the Examiner to contact the undersigned at the number indicated below.

Respectfully submitted,
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